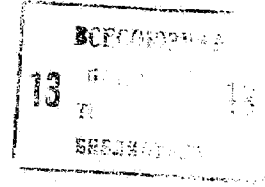




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(75) B. V. Vasilenkaitis

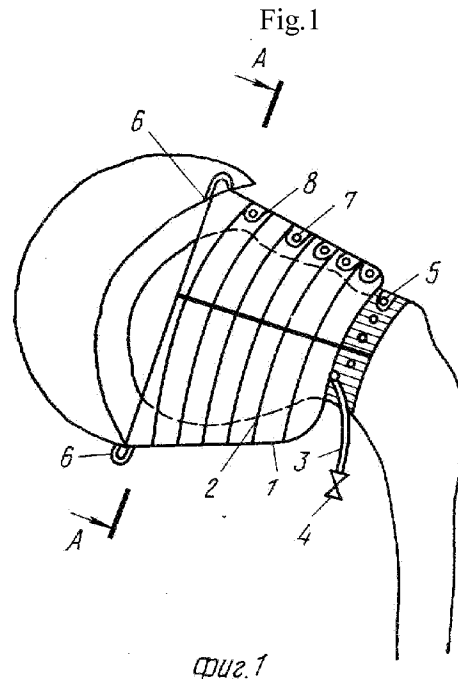
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(54) V.VASILENKAITIS DEVICE FOR
JOINT UNLOADING

(57) The present invention refers to medical
instruments and is intended for orthopedics
and traumatology. The purpose of this
invention is to decrease traumatization of
articular bones and surrounding tissues and

to improve the efficiency of unloading
articular surfaces. The device contains a
pneumatic cuff 1, wherein the outer surface
is reinforced with non-extensible transverse
threads 2. Cuff 1 is equipped with inlet tubes
3 with valves 4. The cuff is also equipped
with belt 5 to be attached to the proximal
bone or endoprosthesis on the one side and
loops 6 on the other side. Cuff 1 is
rectangular in shape and has two loops 7 and
buttons 8 in order to form a closed sheath
around the bone. 3 fig.



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The present invention refers to medical instruments and may be used in orthopedics and traumatology to unload articular surfaces of joints and endoprosthetic devices.

The purpose of this invention is to decrease traumatization of articular bones and surrounding tissues and to improve the efficiency of unloading articular surfaces.

Figure 1 shows the joint unloading device, general view; figure 2 shows the same in expanded view; figure 3 shows cross-section A-A from figure 1.

The joint unloading device contains pneumatic cuff 1 made of elastic material, wherein the outer surface is reinforced with inextensible transverse threads 2 to ensure that the cuff 1 is extended only in the longitudinal direction. Cuff 1 is equipped with inlet tubes 3 with valves 4 used to inflate cuff 1. The cuff is also equipped with belt 5 to be attached to the proximal bone or endoprosthesis on one side and loops 6 on the other side, through which threads may be drawn to attach cuff 1 to the articular cavity or to endoprosthesis.

Cuff 1 is rectangular in shape and has two loops 7 and buttons 8 in order to form a closed sheath around the bone.

The present joint unloading device is used as follows.

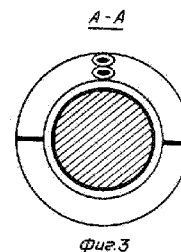
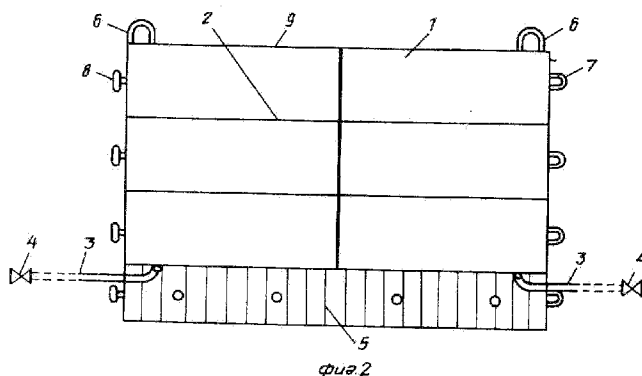
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Cuff 1 is placed on the appropriate bone segment or endoprosthesis and attached using belt 5; loops 7 are fastened on buttons 8 so that cuff 1 embraces the bone. End surface 9 is thrust against the articular cavity around the head of the bone. If necessary, threads are drawn through loops 6 to ensure more reliable attachment of cuff 1 to the articular cavity.

Then the working medium (helium, carbon dioxide, liquid etc.) is supplied to cuff through tube 3 with valve 4 to inflate it. During inflation, the cuff extends longitudinally only, because it is restricted with transverse reinforcing threads 2. End surface 9 of the cuff is thrust against the articular surface of the cavity and pushes the latter from the head of the bone to form a gap, and therefore to unload the joint. Cuff pressure may be adjusted as needed.

Summary of Invention

Joint unloading device, containing an unloading element with mounting elements, *distinguished* by usage of pneumatic cuff with outer surface reinforcement as the unloading element in order to decrease traumatization of joint bones and surrounding tissues and to unload the articular surfaces, with mounting elements consisting of a belt on one side and loops on the other side.



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